

APPLICANT(S): Rosenberg, et al.  
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**In the Claims:**

Please amend the following claims to read as follows:

1-60. Cancelled.

61. (Previously Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence from coordinates 323 to 1255 of SEQ ID NO: 1, wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.

62. Cancelled.

63. Cancelled.

64. (Currently Amended) An ~~[[The]]~~ isolated nucleic acid molecule ~~of claim 61~~, wherein said nucleic acid molecule comprises a nucleotide sequence as set forth in SEQ ID NO: 1.

65. Cancelled.

66. (Currently Amended) An ~~[[The]]~~ isolated nucleic acid ~~of claim 61, wherein said nucleic acid sequence encodes a polypeptide~~ comprising a nucleic acid sequence with at least 90 % nucleotide sequence identity with nucleotides 323-1255, amino acid residues 21-307 of SEQ ID NO: 1 ~~[[2]], wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.~~

67. (Currently amended) The isolated nucleic acid of claim 61, wherein said nucleic acid sequence encodes a polypeptide comprising amino acid residues 53-311 or 21-307 ~~[[, or 260-269]]~~ of SEQ ID NO: 2, having 3-O-sulfotransferase activity.

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68. Cancelled.

69. (Currently amended) An ~~[[The]]~~ isolated nucleic acid molecule ~~of claim 61~~, wherein said nucleic acid molecule comprises a ~~[[the]]~~ nucleotide sequence as set forth in ~~[[of]]~~ SEQ ID NO: 3, and encodes a polypeptide having 3-O-sulfotransferase activity.

70. (Currently amended) The isolated nucleic acid of claim 82, wherein said nucleic acid sequence encodes a polypeptide comprising amino acid residues 21-303 or 49-307 ~~[[or 246-272]]~~ of SEQ ID NO: 4, having 3-O-sulfotransferase activity.

71-72. Cancelled.

73. (Currently amended) An isolated host cell comprising a nucleic acid of claims 61, 64, 80, 82, 83 or 87 ~~[[or 80]]~~.

74. (Previously amended) The isolated host cell of claim 73, wherein said host cell is selected from the group consisting of bacterial cells, yeast cells and insect cells.

75. (Previously amended) The isolated host cell of claim 73, wherein said cell is a mammalian cell.

76. (Previously amended) The isolated host cell of claim 73, wherein said cell is selected from the group consisting of COS-7 cells, CHO cells, murine primary cardiac microvascular endothelial cells, murine mast cell line C57.1, human primary endothelial cells of umbilical vein, F9 embryonal carcinoma cells, rat fat pad endothelial cells, and L cells.

77. Cancelled.

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78. (Currently Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a polypeptide with an amino acid sequence as set forth in SEQ ID NO: 2, having 3-O-sulfotransferase activity.

79. Cancelled.

80. (Currently Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a polypeptide comprising amino acid residues 53-311 of SEQ ID NO: 2, having 3-O-sulfotransferase activity.

81. Cancelled.

82. (Currently Amended) An isolated nucleic acid molecule, comprising ~~comprising~~ from nucleotide coordinates 119-1039 of SEQ ID NO: 3, wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.

83. (Currently Amended) An ~~An~~ [[The]] isolated nucleic acid ~~of claim 82, wherein comprising a~~ nucleic acid sequence ~~comprises a sequence as set forth in SEQ ID NO: 3, encoding a~~ polypeptide comprising amino acid residues 49-307 of SEQ ID NO: 4, having 3-O-sulfotransferase activity.

84. Cancelled.

85. Cancelled.

86. (Currently Amended) An ~~An~~ [[The]] isolated nucleic acid ~~of claim 85, wherein said~~ comprising a nucleic acid sequence with ~~with~~ [[has]] at least ~~[[85]]~~ 90 % nucleotide sequence

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identity with nucleotides 119 to 1039 of SEQ ID NO: 3, encoding a polypeptide having 3-O-sulfotransferase activity.

87. (Currently Amended) An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a polypeptide with an amino acid sequence as set forth in of SEQ ID NO: 4, having 3-O-sulfotransferase activity.

88. Cancelled.

89. Cancelled.

90. (Currently Amended) A vector comprising the isolated nucleic acid of claim 61, 64, 78, 80, [[81]], 82, 83, [[84]], 86[[,]] or 87 [[or 89]].

91. (Currently Amended) [[A]] An isolated host cell comprising the vector of claim 90.